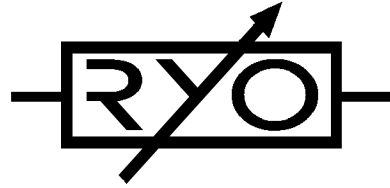


**Ljunggren Audio – Roll Your Own**  
**Bills of material**  
**PENTA 1.0**



**Bold** = PCB1, The rest = PCB2

| Type            | Qty | Value       | Parts  | Description   |
|-----------------|-----|-------------|--|---|
| Power header    | 1   | 2x5pin      | POWER  | Euro power connector  |
| Jack            | 1   | 3.5mm       | <b>J1, J2, J3</b>  | PJ301M-12 / Thonkiconn / Inline   |
| Potentiometer   | 5   | 100K lin    | <b>POT1, POT2, POT3, POT4, POT5</b>  | Tall Trimmer 9mm Pots 20K to 100K linear, 100K for rated current consumption.         |
| Socket strip    | 3   | 1x6pin      | <b>PCB1-CON1, PCB1-CON2, PCB1-CON3</b>                                     |   |
| Pin strip       | 3   | 1x6pin      | PCB2-CON1, PCB2-CON2, PCB2-CON3  |   |
| LED 3mm         | 5   | orange      | <b>L1, L2, L3, L4, L5</b>  | Lite-On LTL-4291N, otherwise LED resistor could need to be changed                    |
| Toggle switch   | 1   | on-off-on   | <b>SW1</b>   | SPDT toggle switch on-off-on, Digikey: 100SP3T2B3M2RE<br>Mouser: 108-1MS3T2B3M2QE-EVX |
| Resistor        | 15  | 100k        | <b>R3, R4, R5</b> , R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R17, R18 | Ca 7mm resistor 1% 1/4W   |
| Resistor        | 2   | 10R         | R1, R2   | Ca 7mm resistor 1/4W  |
| Resistor        | 1   | 2.2k        | <b>R19</b>   | Ca 7mm resistor 1/4W for LED  |
| Resistor        | 1   | 330R        | R16  | Ca 7mm resistor 1/4W  |
| Diode           | 2   | 1N5818      | D1, D2   | Schottky rectifier. Power polarity protection. Alternatives: 1N5817, 1N5819, SB130.   |
| Capacitor       | 7   | 100nF       | C1, C2, C5, C7, C8, C9, C10  | MLCC X7R 2.5mm pin pitch  |
| Capacitor       | 1   | 15pF        | C11  | Any ceramic capacitor, 2.5mm pin pitch  |
| Electrolytic    | 2   | 10uF        | C3, C4   | 2mm pin pitch, 5mm dia, max 10mm height. Min 25V.                                     |
| Electrolytic    | 1   | 100uF       | C6   | 2.5mm pin pitch, 6.3mm dia, max 10mm height, min 16V                                  |
| Transistor      | 7   | 2N7000      | Q1, <b>Q2, Q3, Q4, Q5, Q6, Q7</b>  |   |
| Volt regulator  | 1   | LM2931 5V   | RG1  | VOLTAGE REGULATOR   |
| IC socket       | 1   | DIP14       |  |   |
| CD4xxx          | 1   | CD40106     | IC1  | DIP14 CMOS Hex Schmitt Trigger  |
| IC socket       | 1   | DIP16       |  |   |
| CD4xxx          | 1   | CD4017      | IC2  | DIP16 CMOS Counter  |
| IC socket       | 1   | DIP8        |  |   |
| OpAmp           | 1   | LM358       | IC3  | DIP8  |
| Solder pad      | 7   | LSP10       | 0V, HLD, ST1, ST2, ST3, ST4, ST5   | Drill 1 mm, Pin pitch 2mm, For homebrew expanders.                                    |
| Power cable     | 1   | 16pin-10pin |  |   |
| Mounting screws | 2   | M3x6 black  |  |   |
| Frontplate      | 1   | 4hp         |  | 2mm black PCB material  |
| PCB1            | 1   |             |  |   |
| PCB2            | 1   |             |  |   |
| spacers         | 1   | 11mm        |  | M3  |
| nuts            | 1   | for spacers |  | M3  |
| screws          | 1   | for spacers |  | M3  |